



BYPASSING THE KEYBOARD

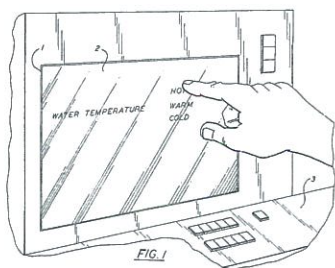
Touch screens and voice recognition are decades old. Now, here come eye tracking and mind reading.

Touch screens are now ubiquitous. They are one of the technologies that my kids were born with but didn't exist, at least commercially, when I was young.

Several sources list the first touch screen patent as No. 3,911,215 dated October 7, 1975, by George Hurst and William Colwell Jr. of Elographics Inc. in Oak Ridge, Tenn. The patent describes two sheets separated by spacers. Each sheet is energized and when a pen touches the top sheet it deflects to touch the bottom sheet producing signals that correlate to the x- and y-coordinates of the pen.

That same patent, though, reveals that a 1972 patent (No. 3,632,874) describes basically the same idea. Another patent, No. 3,482,241 dated August 2, 1966, has an abstract which reads:

"A plurality of touch-sensitive contacts, placed adjacent the screen of a cathode ray tube, which may be selectively actuated for indicating which portion of the image on the cathode ray screen is to be examined in further detail. The position of the actuated contact with respect to the viewing screen indicates which portion of the image has been selected to an output means such as a data processing system. Either resistance change or capacitance change across the actuated contact may be sensed."



A capacitive touch screen patent, No. 3,593,115, was issued to IBM on July 13, 1971, but the stylus had to be wired to an output device. A capacitive touch screen which reads finger position is disclosed in GE Patent No. 4,233,522 dated November 11, 1980.

Then came gesture recognition.

IBM Patent No. 5,252,951 (October 12, 1993) is entitled "Graphical User Interface with Gesture Recognition in a Multiapplication Environment." Synaptics Inc. won Patent No. 5,543,591 in 1996 for

methods of recognizing a tap, double taps, and other gestures on a touch screen.

That brings us to Apple's Patent No. 7,469,381 (December 23, 2000) for the "slide to unlock" and "bounce back" display features of the iPhone. This was one of the patents used in the smart phone patent wars along with design patents covering the minimalist design of the iPhone touch screen.

Someday the touch screen may be fully superseded by voice recognition, finger or hand waving, or even eye movement. All of these technologies, of course, are already the subject of numerous patents and pending patent applications.

An early voice recognition patent is No. 2,575,909 (1951). A recent eye tracker example is Google's Patent No. 8,510,166. You wear glasses (Google Glass?) with a video camera and an eye tracking camera. Back at Google, they can tell what you fixate on in each scene you come across. Scary.

Even scarier, read the mind-machine interface patents like No. 7,187,967 by Neural Signals Inc. The abstract of the patent reads, in part, "a system and method for capturing a neural signal inside a patient's skull, transmitting it to a remote receiver, and using it to control an application." I wonder if it works in reverse.

Sometime in the not too distant future, according to futurist Ray Kurzweil, there will be no need for any kind of computer interface because we will be the computer and it will be us. Kurzweil now works at Google. Is he right? Maybe.

I'm almost certain my children's children will not know what a keyboard is and their children will probably only know of touch screens from visits to a museum. Don't touch! **ME**

IT'S OK TO POINT

An early capacitive touch screen that was sensitive to pressure of a human finger was the subject of Patent No. 4,233,522, issued to GE in 1980.

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